



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/779,373

02/17/2004

Marc Schaepekens

133348-1

7897

39290 7590 04/20/2011

DUANE MORRIS LLP - DC

505 9th Street

Suite 1000

WASHINGTON, DC 20004-2166

EXAMINER

KRUER, KEVIN R

ART UNIT

PAPER NUMBER

1787

MAIL DATE

DELIVERY MODE

04/20/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MARC SCHAEPKENS, HUA WANG,
CHRISTIAN MARIA ANTON HELLER,
KEVIN WARNER FLANAGAN, and
PAUL ALAN MCCONNELEE

Appeal 2010-003335
Application 10/779,373
Technology Center 1700

Before ADRIENE LEPIANE HANLON, TERRY J. OWENS, and
BEVERLY A. FRANKLIN, *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL
STATEMENT OF THE CASE

The Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1, 4-8, and 11-15. Claims 16-26, which are all of the other pending claims, stand withdrawn from consideration by the Examiner. We have jurisdiction under 35 U.S.C. § 6(b).

The Invention

The Appellants claim a composite article and an apparatus comprising the composite article. Claim 1 is illustrative:

1. A composite article comprising a first polymeric substrate layer and a second polymeric substrate layer, each of said polymeric substrate layers having at least a diffusion-inhibiting barrier disposed on a surface thereof, wherein the diffusion-inhibiting barriers on said substrate layers face each other within said composite article and at least one of said diffusion-inhibiting barriers comprises a material, the composition of which varies substantially continuously across a thickness thereof, and wherein compositions of regions across a thickness of said at least one diffusion-inhibiting barrier are selected from the group consisting of organic materials and inorganic materials.

The References

Otto	5,643,638	Jul. 1, 1997
Graff	6,492,026 B1	Dec. 10, 2002
Silvernail	6,576,351 B2	Jun. 10, 2003
Chung	6,836,070 B2	Dec. 28, 2004
		(filed Nov. 27, 2001)

The Rejections

The claims stand rejected under 35 U.S.C. § 103 as follows: claims 1, 4, 6-8, 11, 13, and 14 over Chung in view of Otto, claims 1, 4-8, and 11-14 over Graff in view of Otto, and claims 1, 4, 5, 7, 8, and 11-15 over Silvernail in view of Otto.

OPINION

We affirm the rejections.

Issue

Have the Appellants indicated reversible error in the Examiner's determination that Otto discloses a composition which varies substantially continuously across a thickness?

Findings of Fact

Otto discloses that it was known in the art to vary a composition continuously over a thickness by continuously changing the component mass flows or the process power level (col. 1, ll. 15-30; col. 2, ll. 1-5). Otto excites a plasma in a pulsed manner such that with each pulse a thin layer, typically 1 nm, is deposited on the substrate (col. 2, ll. 49-53). “[T]he amplitude and duration of the power pulse as well as the duration of the pulse interval are decisive for the production of a gradient layer” (col. 2, ll. 63-67). “[L]ayers having a composition gradient and/or structural gradient can be produced” (col. 4, ll. 1-3). The “gradient layer is, for example, completely organic on the substrate side or is organic to a large amount and the composition of the layer changes continuously so that it is completely or to a large extent inorganic on the function layer side” (col. 5, ll. 13-17).

Analysis

The Appellants argue that “[t]he term ‘continuously’ in the ‘varies...continuously’ feature is dispositive in this case” (Br. 4).

What is omitted by the “...” in that argument is “substantially”. Thus, the dispositive issue, according to the Appellants, is whether Otto’s composition “varies substantially continuously”.

The Appellants argue that Otto’s method forms multiple individual layers and, therefore, does not provide a concentration gradient which varies continuously (Br. 4-8; Reply Br. 2).

The Appellants provide no evidence, or even argument, that one of ordinary skill in the art would not have considered the composition gradient across Otto’s gradient layer comprised of thin, typically 1 nm layers, each

formed by one pulse, to vary substantially continuously. Otto's disclosure that "the composition of the layer changes continuously" (col. 5, ll. 15-16) appears to indicate that one of ordinary skill in the art not only would have considered Otto's concentration gradient to vary substantially continuously, but would have considered it to vary continuously.

Moreover, Otto discloses that it was known in the art to vary a composition continuously by continuously changing the component gas flow rates (col. 1, ll. 20-26). That is the same method the Appellants use to vary their composition continuously.¹ Thus, even if the Appellants' "varies substantially continuously" limitation distinguished the claimed article over that produced by the primary references as modified by Otto's pulse method, it does not appear that the limitation would distinguish the claimed article over the article produced by the primary references as modified by the prior art method disclosed by Otto.

Conclusion of Law

The Appellants have not indicated reversible error in the Examiner's determination that Otto discloses a composition which varies substantially continuously across a thickness.

DECISION/ORDER

The rejections under 35 U.S.C. § 103 of claims 1, 4, 6-8, 11, 13, and 14 over Chung in view of Otto, claims 1, 4-8, and 11-14 over Graff in view

¹ US 7,015,640 (application no. 10/065,018), col. 6, ll. 54-57, incorporated by reference into the Appellants' Specification (¶ 0029) and relied upon for written descriptive support for the "varies substantially continuously" claim limitation (Br. 2).

Appeal 2010-003335
Application 10/779,373

of Otto, and claims 1, 4, 5, 7, 8, and 11-15 over Silvernail in view of Otto are affirmed.

It is ordered that the Examiner's decision is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

sld